

PLANTS IN SOUTH PRESERVE TIMBER

Work Carried on Profitably at Various Points.

HOW TREATMENT IS APPLIED

Most of the Western Railroads and many in the South use cross-ties and bridge pieces soaked in creosote or impregnated with chloride of zinc—Process is simple.

Preservation of wood by the use of creosote and other antiseptic agencies is now being practiced extensively in the Southern States. It is one of the first steps toward the conservation of the great lumber resources of the South and is being worked out successfully at several points.

Among the larger wood preservative concerns in the South may be mentioned the American Creosote Works at New Orleans, which has a capacity of 50,000,000 board feet per annum. At this works lumber, piles, cross-ties, cross-arms, and telegraph poles are treated.

Another large plant has been established at Galveston, Tex., where railroad ties are the principal form of the output, with a capacity of 7,000 ties a week. Another plant was formerly established at Greenville, Tex., which was recently destroyed by fire and is being rebuilt at Denison, Tex., on an enlarged scale with the expectation that it will be in operation before the end of the present year.

A large plant is successfully operated at Norfolk, Va.

Plants Controlled in Chicago.

Two plants, controlled by the Ayer & Lord T. Co., of Chicago, are located, one at Grenada, Miss., and the other at Argenta, Ark. At Argenta the output is 1,250,000 ties, 1,000,000 feet of lumber and 400,000 feet of piling. At the Grenada mill the output is 2,000,000 ties, 6,000,000 feet of lumber and 450,000 lineal feet of piling. The manager of the company writes to The Washington Herald that the company uses about 10,000,000 gallons of creosote oil per annum, most of which is imported from Germany and England. The creosote oil is brought to New Orleans in tank steamers and is stored there in the company's tanks which have a capacity of 1,250,000 gallons. It is carried from New Orleans to the two plants as required in the work of preserving wood.

Processes Are Simple.

The system of treating wood is comparatively simple. In order to insure the best results it must be conducted on strictly methodical and systematic principles. The first and most essential thing, after selecting timber of equal cross sections, is the seasoning process. Unless the wood is thoroughly and properly seasoned the work and cost of treating will be ineffectual. All fermenting properties in the wood must be removed and their place supplied with antiseptic oils or chemicals or the remaining portion will ferment, causing dry rot which will destroy the durability of the timber.

The seasoning process consists of admitting the wood into a cylinder filled with live steam under pressure, which is done to vaporize the sap and wood acids. The steam is retained until the sap cylinder gauge shows an up to be condensed and removed. When the condensed steam is released, the valves again closed, the vacuum applied and held until all moisture is extracted and the wood left in a porous condition.

While the vacuum is being applied, superheated steam is constantly being circulated through over 5,000 feet of coils lying on the bottom of the cylinder. This, when the live steam is discharged and vacuum applied, produces hot air and extracts the greater part of the moisture remaining in the wood and cylinder. The wood is then ready for the preserving fluid.

Preservative Is Applied.

Immediately following the seasoning process comes the injection of the preservative. In conducting this process elevated tanks are used. The working tanks are elevated to a sufficient height and with ample capacity to discharge pipes to permit the rapid filling of the cylinder, thus preventing unequal absorption. When the cylinder is filled the pressure pump is put in action and continued until the required quantity of the fluid is injected into the wood. This information is obtained from gauges attached to gauges constructed for that purpose.

In creosoting, the treatment varies from 8 to 24 pounds to the cubic foot to suit the different purposes for which the timber is used.

From 8 to 10 pounds of oil to the cubic foot is used on railroad, bridge, or wharf construction where the timber is framed before treatment, that is where all mortising, boring, dapping, or cut-offs have been previously made. Where this is not done a larger quantity of oil should be used, say from 12 to 14 pounds. Where the timber, such as round or sheet piling, girts or sway braces, is intended for marine use in the Gulf of Mexico, Caribbean Sea, or other Southern waters, not less than 22 to 24 pounds to cubic foot should be used to make the treatment effective as against the ravages of the teredo.

In order to give this treatment without injury to the wood, shortleaf or sap pine should be used. This character of wood insures perfect penetration without materially lessening the strength of the timber. Timber for similar use in Northern waters will prove satisfactory with a lighter treatment of oil, say from 14 to 18 pounds per cubic foot. These quantities of oil, it must be understood, are for the pure dead oil, of course, with no manipulation or adulteration. Creosote is used almost exclusively in England and France for the preservation of wood.

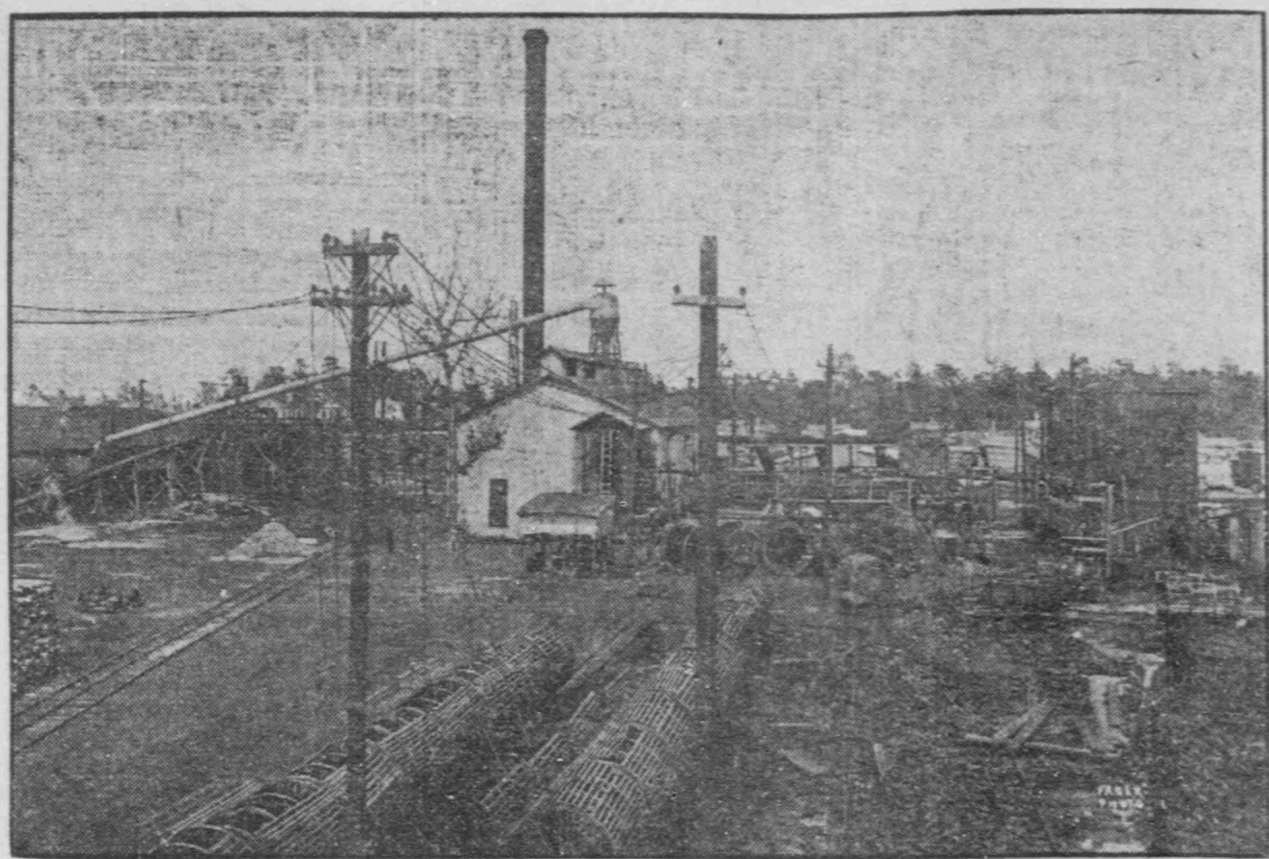
Treating with Zinc and Oil.

Zinc and oil jointly, as used in the Allard process, has been in use about eight years. A similar treatment has been used in Germany for a sufficient length of time to demonstrate its utility. It is now used extensively in the treatment of ties throughout the German empire.

The Allard process consists of the injection of a solution of 2 to 3 per cent chloride of zinc in proportion of 12 pounds to the cubic foot. This is followed by a second injection of three pounds of dead oil of tar to the cubic foot.

Chloride of zinc, while known as a superior antiseptic and wood preservative, on account of its solubility, is objectionable when used in a locality frequented by continued or excessive moisture. But the injection of dead oil, which is not soluble in water, prevents the leaching out or dissolution of the zinc. The greater portion of the oil, which is a superior preservative, remaining in the

WOOD PRESERVED BY CREOSOTE PROCESS.



VIEW OF PLANT IN OPERATION AT NORFOLK, VA.

wood around the outer surface produces practically a water-proof coating when allowed to vulcanize before being used. This process is especially applicable to ties, sills, poles, and other timbers coming in contact with the earth.

The difference between the Allard process and that used in Germany consists of an injection of zinc solution followed by an injection of dead oil, while in Germany the two preservatives are mixed, or attempted to be mixed with a lighter grade of oil, having less preservative qualities than that used in the Allard process. While the quantity of oil is 50 per cent less than that used in the Allard process, the zinc and oil while agitated will mix but will not amalgamate and precipitates when agitation ceases, producing the following effect:

The oil in the cylinder precipitating to the bottom except a small amount of the lighter portions having a slight mixture in the center, leaving the outer strata comparatively free of oil. In other words, the lower strata will be creosoted; the middle strata zinc and oil of an inferior grade, and the upper strata chloride of zinc Burnettized.

Use of Zinc, Glue, and Tannin.

This process was introduced in St. Louis in 1878. The first road to adopt the use of ties treated by this process was the Atchison, Topeka and Santa Fe, which was in 1883. Since its introduction it has received considerable attention from other roads and ties so treated are now in use by the Chicago and Rock Island, Atchison, Topeka and Santa Fe, and the Mexican Central Railway Company.

The process consists of an injection of a 2 per cent solution of chloride of zinc containing a small amount of glue followed by a solution of tannin. The effect of the tannin, it is claimed, being to form with the glue an artificial leather, insoluble in water, which will close up the ducts and retain the zinc chloride. There are two methods of using this process: First, by using the zinc glue, and tannin as before stated; second, by making three separate solutions and injections of zinc glue, and tannin respectively. This process is and has been used extensively for ties, but from all the information available no very reliable record has been kept of the durability of the ties so treated. The Gulf, Colorado and Santa Fe Railroad Company has abandoned the use of this process at its Somerville plant.

Value of Treated Wood.

In 1875 the Gulf, Colorado and Santa Fe Railroad built out of Galveston across West Bay a trestle 11,000 feet long. A contract was made to treat the piling for this structure. Page & Co., of New Orleans, contracted to furnish the oil used. This contract called for eight pounds of oil to the cubic foot of timber, which amount was totally inadequate as a preventive against the ravages of the teredo.

About 150 piles were treated with 20 to 24 pounds of dead oil to the cubic foot to demonstrate its value when properly used. This piling was placed in the structure with those treated with eight pounds of oil. The eight-pound treatment proved inadequate and did not prolong the life of the piling to exceed four years, whereas, those subjected to an application of 20 to 24 pounds of oil and comparatively intact after a service of twenty-eight years.

The Gulf, Colorado and Santa Fe Railroad rebuilt the bridge in 1894. About 4,000 sticks, also ten years the piles show no sign of action by the teredo.

DEPOT FOR THE SOMBRERO.

San Antonio Will Distribute Many of These Hats This Year.

San Antonio, Tex., July 3.—San Antonio is the distributing center of the United States for the Mexican straw sombrero, a hat which is being widely used throughout the Southern and Middle States.

In one consignment lately 720,000 of these sombreros were imported by one dealer.

These hats bid fair in time to replace the five-cent "jimmies." They have very high crowns, keeping a column of air above the head, their brims are unusually large, some of them being young umbrellas. Plenty of these hats retail as low as 5 and 10 cents apiece, others sell as high as 75 cents and \$1.50 a piece.

When the maker has been especially lavish with his decorations of cut gilt and passementerie braid, the cost is from \$2.50 to \$7.50 a piece, some of them running as high as \$12 and \$15. It is characteristic of the Mexican to wear a \$10 hat and a \$3 suit of clothes, and ride a \$50 saddle on a \$15 pony.

A few years ago these Mexican hats were rarely seen in the United States, but now orders for them come from as far North as Missouri and Kentucky, and many of them are shipped to New York City.

The wives and daughters of the tourists have found that the finer grade of these Mexican hats can be decorated with red ribbons around the crown and brim, knotting them in big bows under their chins, thus making a most picturesque headgear for lawn parties and picnics. The wide soft brims keep the sun off the face in a setting of vari-colored straw and red ribbons is unquestionably fetching. To meet this high-class demand, some of the Mexican sombreros this year are close to the genuine Panama in looks.

The duty on these hats runs from 25 to 50 per cent and freight charges are added. It is estimated that between 750,000 and 1,000,000 are bought every year in the United States.

Union Station Nearly Completed.

The union station being built at Little Rock, Ark., by the Missouri Pacific and St. Louis Southwestern lines, costing \$300,000, will be completed in about thirty days. The Missouri Pacific Company is sending on this building and its passenger yards upward of \$1,000,000.

OUR MONEY GOES TO CANADA

Capital Invested Over the Border Shown in Tariff Speeches.

The Factories Going North Are Needed Down South, and Ought to Be Kept There.

Not without reason has the charge been made in both Houses of Congress that the Canadian tariff acts as a means of luring American capital across the border, when it would otherwise remain in this country. It appears that several large American factories have been established in the Dominion within the past few years, and that many branch concerns have also gone there, with a view to making goods and selling them in Canada so as to avoid paying the tariff on the products carried across the border.

It is not contended for one moment that these concerns would not prefer to remain in the United States, but inasmuch as the best markets are in Canada, it becomes necessary to make and assemble the product there to enable the manufacturer to compete with English and other manufacturers.

That some arrangement ought to be effected between the two countries to remove these conditions has been freely said in Congress. If these factories are to move from the Northern and Western States, they are needed in the South, and the influx of American capital into Canada in the last dozen years is a distinct loss to this country and the New South.

Consul A. G. Seyfert, reporting from Owen Sound, on American capital in Canada, estimates that about \$300,000,000 of such capital is in industrial plants in that of the International Harvester Company, at Hamilton, which employs 3,000 to 4,000 men. The purpose in establishing this immense plant was not only to supply the Canadian farmer with agricultural implements, but also to manufacture farm machinery for export, as Canadian goods have a customs rebate in South Africa and on some lines in Australia, while Canadian farm machinery enters France at a lower tariff than similar goods from the United States.

Mr. Seyfert says most of these American annexes are located in Ontario, among them being three large shoe factories, financed entirely by American capital which went to Canada in the last few years. High-grade American shoes are imported into Canada, but the lower grades are made by American factories in Canada. In the lumbering business, says Mr. Seyfert, there are enormous American investments. When a tax was put on saw logs for export the Americans established sawmills in Canada. It is estimated \$40,000,000 in American capital is invested in Canadian lumber interests.

Texas Virginian Railway.

Norfolk, Va., July 3.—Booker T. Washington is on a tour of the Virginian Railway to investigate the condition of the negroes in the country opened by the new system built by the late Henry H. Rogers. The tour is being made by twenty-five negro educators and others, and will be concluded to-morrow at Deepwater, W. Va.

A Chicago man has been granted a patent on a electric light attachment for a clock which switches on the current by pressing a button under the pillow to save the user getting out of bed.

TEXTILE INDUSTRIES GROW

Increase in Mills and Spindles Last Year Very Encouraging.

Some Facts Presented in Last Issue of the Southern Railway's Textile Directory.

The textile directory recently issued by the land and industrial department of the Southern Railway and Mobile and Ohio Railroad contains a list of cotton, knitting, and woolen mills in the territory of these lines on the first of the year.

At that time these mills numbered 751, of which 584 were cotton mills, 125 knitting mills, and 43 woolen mills. In all, these plants operated 225,210 looms and 7,832,735 spindles. In the territory at the time of the gathering of these statistics nine mills were under construction.

The growth of the industry has been remarkable. In 1880 all the textile plants of the South had but 67,000 spindles, barely 5 per cent of the total in the United States; now they are credited, in round numbers, with 10,500,000 spindles, practically 30 per cent of the number in the entire country. The capital employed has grown from \$21,000,000 to nearly \$300,000,000, and the number of bales of cotton annually used from 210,000 to over 2,100,000. No other manufacturing sector ever increased its spindles in as large percentages. South Carolina has 3,400,000 spindles, as against 1,400,000 in 1900, and North Carolina in the same period increased its number from 1,100,000 to 3,100,000. Notable increases have also been made in Georgia and Alabama. During the last half of 1908 North Carolina constructed thirty mills, a greater number than any other State.

Of the cotton manufacturing States, South Carolina is second, North Carolina third, and Georgia fifth, according to the latest available statistics. The Piedmont region is one of the great cotton manufacturing districts of the world, and has such prominence in this industry that the territory of the Southern Railway between Danville, Va., and Atlanta, Ga., a distance of 400 miles, has been referred to as one long cotton mill village.

Of an intermediate section of this territory the American Textile Manufacturers Association reports from 2,251 mills. In Pennsylvania 2,224 mills reported to the census, and in Virginia 1,937 mills.

In North Carolina reports came from 1,740 mills and in Kentucky from 1,330 mills. The number of mills reporting from Tennessee was only forty less than from Kentucky. In West Virginia, Georgia, Missouri, Ohio, and Indiana between 1,000 and 1,100 mills each were engaged in cutting lumber last year. The average output per mill was \$35,000 feet in New York and \$3,300,000 feet in Louisiana, these two States presenting nearly the extremes of production by small and large mills.

Small Mills Swell Output.

While there are many large sawmills in the United States, the small mills far outnumber the large ones, and it is particularly interesting to note how many of these small mills there are in the States which are not now of first rank in lumber production. The statistics for New York were collected by the forest, fish and game commission of that State, which secures reports from 2,251 mills. In Pennsylvania 2,224 mills reported to the census, and in Virginia 1,937 mills.

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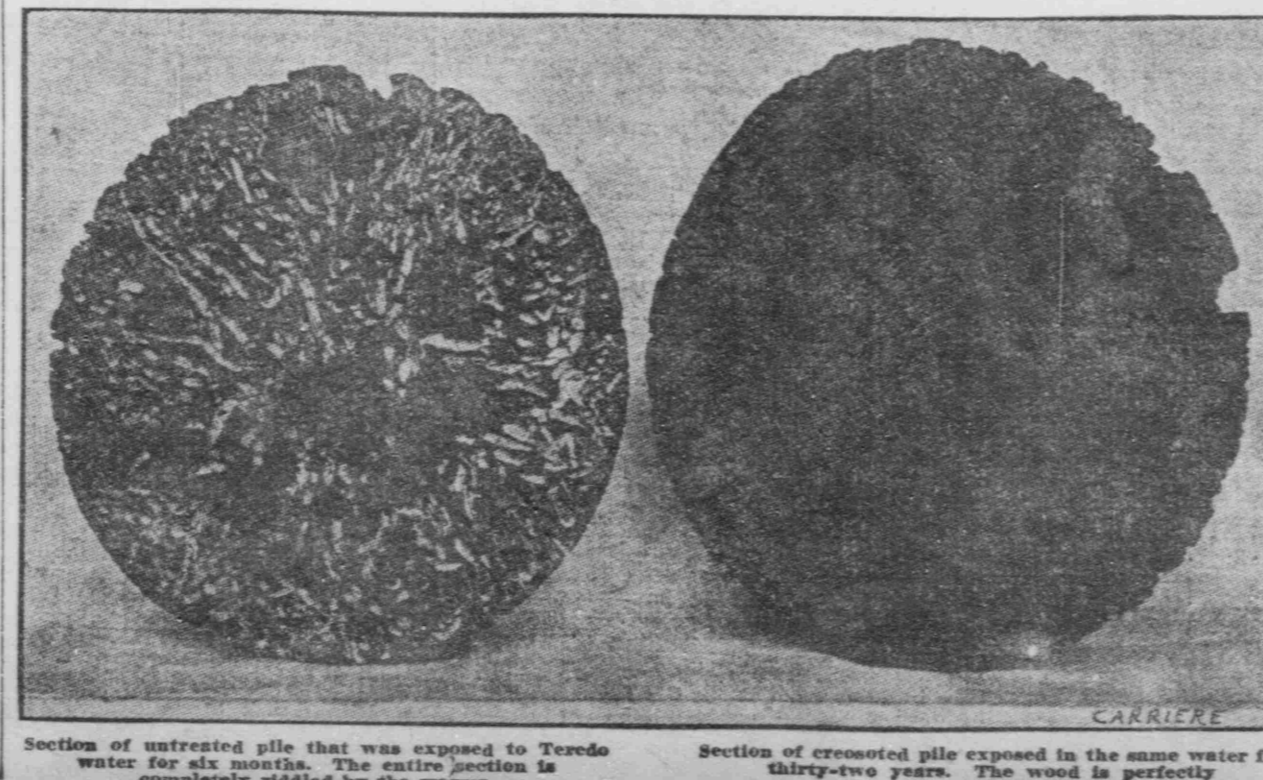
AIKEN BUILDS NEW BANK.

Substantial Brick Structure Going Up in South Carolina City.

Aiken, S. C., July 2.—The Bank of Aiken has purchased the corner lot in Main street of Mr. Klatt, of Charleston, and expects to erect on it a modern two or three-story building in the near future. This lot is on the corner of Main and Curve streets, and is in the heart of the business portion of the town. It is now occupied by a wooden building, which is one of two wooden structures on that side of the street in the business portion. For this reason the citizens are glad that it is to be removed. The new building will be a modern brick structure, and will be a future home for the bank.

A merger is now being proposed between the Bank of Aiken, the Bank of Barnwell, and the Bank of Graniteville, with a capitalization of \$500,000. The other banks would then become branches, with the main institution and office in this city.

PILE TREATED WITH CREOSOTE AND ONE NOT TREATED.



Section of untreated pile that was exposed to teredo water for six months. The entire section is completely riddled by the worms.

Section of creosoted pile exposed in the same water for thirty-two years. The wood is perfectly sound.

LUMBER CUT SHORT

Census Data Shows Decrease of 17 Per Cent.

DUE LARGELY TO THE PANIC

Washington Leads All States in Production—Louisiana Ranks Second, but Excels in Yellow Pine and Cypress—Mississippi Third and Arkansas Fourth—Conditions in South

During the last calendar year 31,331 sawmills in the United States manufactured 33,289,363,000 feet of lumber, according to a preliminary report just issued by the Bureau of the Census. These mills also cut 12,106,483,000 shingles and 2,986,684,000 lath.

Lumber manufacturing, like every other industry, felt the effects of the business depression which began in October, 1907. Consequently the production in 1908 was below that for the previous year. In 1907 the cut of 28,500 sawmills was 40,256,154,000 feet, the highest production ever recorded. Notwithstanding, therefore, that in 1908 reports were received from 8 per cent more mills than in 1907, the decrease in lumber cut reported by them was slightly over 17 per cent.

Washington Leads the States.

Washington, as for several years past, still ranks first among the States in lumber production, its cut in 1908 being 2,915,325,000 feet, a decrease of 22.3 per cent over the cut in 1907. Nearly all the lumber manufactured in Washington is Douglas fir, the market for which was seriously affected by the panic.

Louisiana ranks second, with 2,722,421,000 feet, a decrease of 250,000,000 feet, or 8.4 per cent over the cut in 1907. Louisiana is first in the production of both yellow pine and cypress.

Cypress is a particularly useful and valuable wood, and apparently the manufacturers of it did not suffer as severely from dull times as did the manufacturers of yellow pine and Douglas fir.

Mississippi was the third State in lumber production in 1908, with a total of 1,861,055,000 feet, a decrease of 11 per cent from the cut in 1907. Arkansas ranked fourth, with 1,564,591,000 feet, a decrease of nearly 17 per cent over the previous year's output, and Wisconsin fifth, with 1,613,315,000 feet, against 2,000,275,000 feet in 1907.

In Texas, where the lumber industry is confined almost exclusively to yellow pine, the falling off was very heavy. The total cut of the State in 1908 was 1,524,088,000 feet, a decrease of 31.6 per cent over the cut in 1907.

Eight other States manufactured more than 1,000,000,000 feet each of lumber last year. In the order of importance, they were Michigan, Oregon, Minnesota, Pennsylvania, Virginia, Alabama, North Carolina, and West Virginia. California and Maine, other States which reported more than 1,000,000,000 feet each in 1907, went just below that figure in 1908.

The totals for a few States were greater in 1908 than in 1907, but this was chiefly due to the larger number of reports secured in those States in 1908. In Georgia, for instance, a particularly close canvass increased the number of mills reporting nearly one-third, while the resulting increase in reports of total production was only 6 per cent.

In Massachusetts 610 mills reported a cut of 384,528,000 feet in 1908, as compared with a cut of 364,231,000 feet by 518 mills in 1907. In Colorado 254 mills cut 183,226,000 feet in 1908, while in 1907 239 mills cut 134,235,000 feet. A particularly large gain in mills reporting was made in Oklahoma. In 1907 129 mills in that State cut 140,015,000 feet, while in 1908 244 mills cut 158,750,000 feet.

Small Mills Swell Output.

While there are many large sawmills in the United States, the small mills far outnumber the large ones, and it is particularly interesting to note how many of these small mills there are in the States which are not now of first rank in lumber production. The statistics for New York were collected by the forest, fish and game commission of that State, which secures reports from 2,251 mills. In Pennsylvania 2,224 mills reported to the census, and in Virginia 1,937 mills.

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Yellow pine, Douglas fir, white pine, oak, hemlock, and spruce, in the order named, were the woods cut into lumber in the largest quantity. Yellow pine has ranked first since it surpassed white pine in the later '90's, and it is still far in the lead. More recently white pine has also been superseded by Douglas fir, so that now it occupies third place.

Washington has been the principal shingle-producing State since the use of red cedar shingles became general, and it supplied three-fifths of the total output of shingles last year. Among the other shingle-producing States, Michigan, Louisiana, Maine, and California were the most important.

The shingles cut in Michigan and Maine are chiefly of white cedar, those in Louisiana cypress, and those in California of redwood. Lath are generally a by-product of lumber manufacture and are made to some extent from almost every wood that is cut into lumber. Among the kinds of lath which are most prominent are white pine, Douglas fir, spruce, yellow pine, cypress, and hemlock.

SPECIAL ANNOUNCEMENT

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We will sell at Acreage Prices lots containing a quarter of an acre or more (while they last) in the Beautiful Chevy Chase, D. C., Section.

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ATLANTA BIDS ON SUPPLIES WILL VOTE ON COUNTY BONDS

Southern City May Wrest Army Trade from New York.

Citizens Want Jail and Courthouse in Oklahoma.

Grocers Hopeful of Supplying Three Military Posts in the South.

Election Will Be Held on August 31, and Will Probably Carry.

Atlanta, July 3.—Bids from twenty-six of Atlanta's leading wholesale supply houses on commissaries to be furnished the United States government for three of its posts were opened at 11 o'clock Tuesday morning in the office of Capt. Louis M. Nuttman, chief commissary of the Department of the Gulf.

Ten days ago specifications were sent out for subsistence supplies to be delivered during July for August consumption. The privilege of bidding to furnish the supplies for Fort McPherson, Fort Oglethorpe, and the Augusta Arsenal was recently obtained by the Atlanta Wholesale Grocers' Association, all such supplies having heretofore been purchased from New York and Chicago houses.

The large number of bids, the low prices made therein, and the fact that every one of the 122 different articles named in the list of specifications was bid on, all evidence the determination of the local wholesalers to secure this large and desirable trade from Uncle Sam.

The bids are now being examined, classified, and checked off, one against the other, while the samples furnished with bids are being tested and rated. All this will take a week or ten days, at the end of which time the awards will be announced.

While the commissary's office maintains a noncommittal attitude as to the probability of success of the Atlanta bidders in capturing the new business from their New York and Chicago competitors, it is understood pretty distinctly that the first examination of the bids revealed the fact that the prices are "right," and that the samples come up to specifications and the deliveries can be made on time the Atlantans will get away with their big undertaking with marked success.

PLANS TO BUILD ROADS.

Towns and Counties in the South Vote Bonds for the Purpose.

Evidence of Southern interest in road building, representing bond issues voted or discussed prior to voting, and mentioned in commercial reports between May 29 and June 12, 1908.

WEEK ENDING JUNE 12.	
Columbia County, Miss.	\$20,000
Monroe County, Ga.	1,000,000
McNell Township, N. C., day rds.	15,000
Orange County, Va., macadam.	2,500
Floyd County, Ga.	20,000
Jackson County, Miss.	30,000
Pike County, Ark.	30,000
Total for three weeks.	
\$1,325,000	

McAlester, Okla., July 3.—The board of county commissioners of Pittsburg County have prepared a call for a special election to be held throughout the county on Tuesday, August 31, at which the voters will pass on bonds to the amount of \$125,000 for a courthouse and to the amount of \$30,000 for a county jail.

The call is made in response to a petition which has been diligently circulated for many weeks and which bears the names of 1,420 electors, which is considerably more than the required one-sixth of the qualified electors and taxpayers of the county, according to the last enumeration.

The commissioners, having canvassed the petitions, concluded that they bore the requisite number of signatures and that they were sufficient in form and substance.

The voting of the bonds would make effective the contract with Architect Bryan, since the injunction was based on the fact that the courthouse bonds had not been authorized by the voters of the county. If the bonds are authorized at the coming election, the contract, which provides that Mr. Bryan shall be the architect in case a courthouse is built prior to January, 1911, will be valid.

The commissioners, while giving the voters an idea of the kind of structure to be built, if the bonds are voted, make no reference to the location of the courthouse.

It is understood that one of the commissioners had privately stated that the plan would be to "play one site against another," so that the county might get a site free.

Mr. Tontz insists that the Federal jail, which in the course of a comparatively short time, in the opinion of Senator Gore, will be given to the county, is too expensive to operate. On the other hand, Assistant Warden Lubbes, of the State Penitentiary, who operated a jail identical with this for a long time, says that it is the very best jail that could be devised, being the result of a number of years of experience, and that it can be handled as economically as any jail.

NEW INVENTIONS PERFECTED.

Several Ingenious Devices Reported by Consul at Chemnitz.

Consul Thomas H. Norton forwards from Chemnitz descriptions of several new German inventions.

One of them gives an account of a new hosiery knitting machine with Jacquard attachment, which it is said will revolutionize the manufacture of lace hosi